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CAREER OPPORTUNITIES

IN THE OFFICE OF NUCLEAR REACTOR REGULATION

U.S. NUCLEAR REGULATORY COMMISSION

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Role of the Office of Nuclear Reactor Regulation

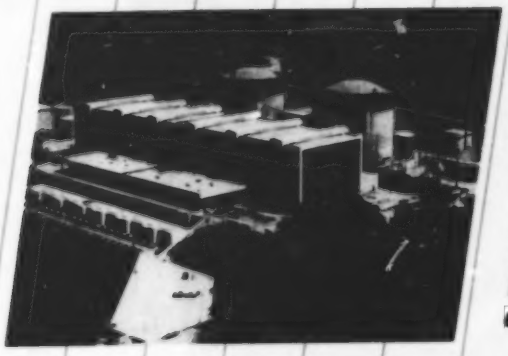
The U.S. Nuclear Regulatory Commission's Office of Nuclear Reactor Regulation (NRR) is responsible for regulating the safe operation of the nation's operating nuclear reactors and for evaluating all applications to construct and operate new reactors. These responsibilities include oversight of reactor siting, design, construction, operation, maintenance, and decommissioning. As the agency's largest program office—with a staff of over 600—NRR's review responsibilities encompass the safety, safeguards, environmental, and antitrust aspects of these facilities. NRR also provides direction to, and oversight of, NRC Regional offices for reactor licensing and inspection programs. The NRR staff also reviews designs for standardized plants and advanced reactors now under development, which are supported by the Department of Energy.

In recent years, the steady increase in the number of licensed operating nuclear plants and the corresponding decrease in the number of plants still under construction brought a substantial shift in NRC regulatory activities. NRR staff resources currently focus primarily on the safe regulation of more than 100 nuclear power plants now licensed for operation in the United States.

Experienced Applicants

NRC is a scientific and technical agency with a staff representing diverse technical disciplines. The job functions within NRC are varied and include such activities as review of nuclear reactor design, operation, and maintenance; inspection and enforcement; and research and development of regulatory guidance and regulations.

Applicants may be hired to fill one of the following types of positions in NRR, depending on their qualifications and current needs.



Project Management

PROJECT MANAGERS perform reviews and implement the policies, programs, and regulatory activities, for a specific reactor facility, including coordination of licensing, inspection, technical review, and licensee performance associated with the overall safety and environmental management for the facility.

PROJECT ENGINEERS perform special studies and/or assist with NRC inspection, enforcement, and evaluation of programs at assigned reactor facilities in the pre-operational, start-up, and operational stages. They review licensees' requests for amendments and prepare safety evaluations for power or research reactors.

Engineering Specialties

NRR requires expertise in various engineering disciplines, including nuclear, mechanical, materials, fire protection, and electrical. Typical responsibilities for these engineers are briefly described.

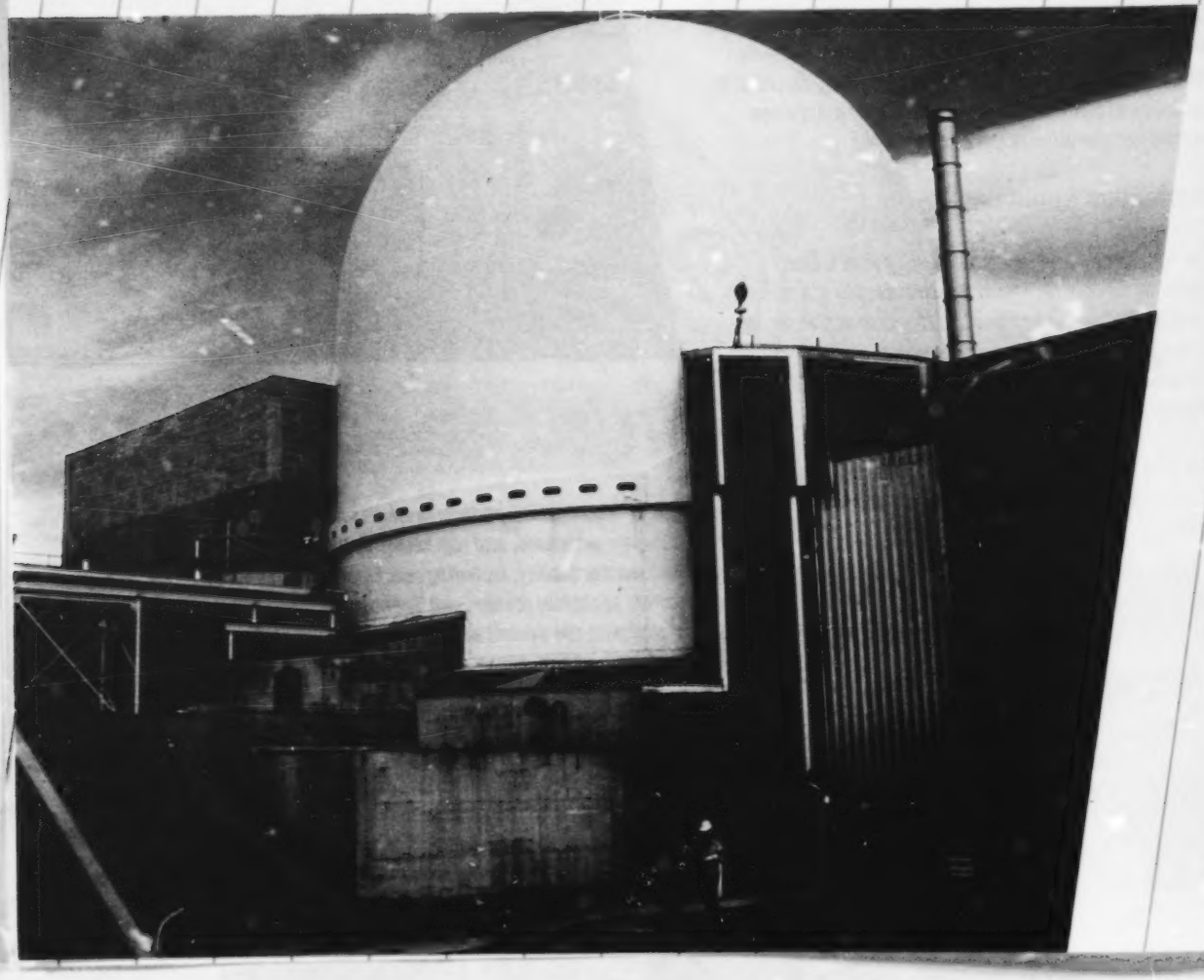
NUCLEAR ENGINEERS perform specialized engineering work concerned primarily with the characteristics and requirements of nuclear processes. The work includes research, development, design, testing, installation, operation, and maintenance of nuclear reactors, nuclear power plants, and auxiliary systems and equipment.

ELECTRICAL ENGINEERS review, evaluate, and inspect the functional capability of electrical, instrumentation, and control systems and the components needed for safe operation and safe shutdown of nuclear facilities subject to the NRC regulatory program.

MATERIALS ENGINEERS review and evaluate materials and other related engineering aspects of components and structures needed for safe operation and safe shutdown of nuclear facilities subject to the NRC regulatory program.

MECHANICAL ENGINEERS review and evaluate the mechanical and other related engineering aspects of components and equipment needed for safe operation and safe shutdown of nuclear facilities subject to the NRC regulatory program.

FIRE PROTECTION ENGINEERS review and evaluate the fire protection programs of nuclear power plants and effects of fire and fire suppression systems on the structures, systems and components important to safety in nuclear power plants, to ensure that they are within the limits imposed by NRC rules and regulations.



Reactor Engineer/Inspector

REACTOR ENGINEERS (OPERATOR LICENSING) review and evaluate operator licensing examinations for content, procedures, and administration; develop regulations and guidance to ensure that licensed operators have skills necessary to safely operate nuclear power plants; formulate examiner training programs to supplement examiner development and maintenance of skills; and manage technical assistance and research contractors in the resolution of regulatory analyses, examination concerns, and the licensing process. A Senior Reactor Operator (SRO) license or an instructor certification on a commercial nuclear power plant is desirable.

REACTOR ENGINEERS (EXAMINERS) develop, prepare, and administer written, oral, and practical examinations for applicants for NRC operator and senior operator licenses for production and utilization facilities; evaluate the results; and make recommendations for approval or denial of the operator license.

REACTOR ENGINEERS (RISK ASSESSMENT) develop and utilize reliability and quantitative risk assessment methods pertaining to nuclear power plant safety systems, equipment, and plant procedures to evaluate regional inspection and licensing review activities.

REACTOR INSPECTORS perform direct inspections of licensee activities during construction, testing, and operation of power and non-power reactor facilities. They assist in the review and evaluation of safety and environmental considerations associated with the design and operation of nuclear reactors licensed for operation.

Other Specialties

REACTOR SECURITY SPECIALISTS review and evaluate proposed licenses, physical protection equipment, and programs. They also prepare license amendments and review, evaluate, and develop the NRC physical protection inspection program and related guidance that is employed by NRC's regional staff, and appraise the regional conduct of the program. They develop regulations and guidance for the physical protection of licensed reactor facilities.

HEALTH PHYSICISTS/RADIATION SPECIALISTS conduct inspections to assure protection of plant and facility workers and members of the public against any possibilities of hazardous exposure to nuclear radiation involved in the handling, storage, operation, use, disposal, and decontamination of radioactive fuels and materials.

GEOTECHNICAL ENGINEERS review and evaluate the seismological and geological aspects of sites for nuclear facilities as described in applications for construction permits and operating licenses for proposed and operating nuclear power plants to assure the public health and safety.

PHYSICAL SCIENTISTS evaluate meteorological, climatological, and air quality characteristics of nuclear facility sites subject to NRC programs, and their implications with respect to the safety requirements of nuclear facility design and the impact of these facilities on the environment.

RELIABILITY AND RISK ANALYSTS perform reliability and risk assessment studies and reviews of studies in the reviewer's area of expertise, such as: the functional capability of nuclear power plant safety systems, equipment and procedures needed for safe plant shutdown following abnormal events; the response of containment and the behavior of fission products in core damage accidents; and the radiological consequences of severe accidents.

EMERGENCY PREPAREDNESS SPECIALISTS recommend standards and criteria for emergency preparedness at nuclear facilities. They review and evaluate nuclear power reactor emergency plans.

TRAINING ASSESSMENT SPECIALISTS review safety analysis reports for construction permit and operating license applications; assist in the development of technical programs to assess nuclear power plant personnel in the areas of selection, training, retraining education, and the development and use of training devices such as simulators. An SRO license or an instructor certification on a commercial nuclear power plant is desirable.

Technical Intern Program

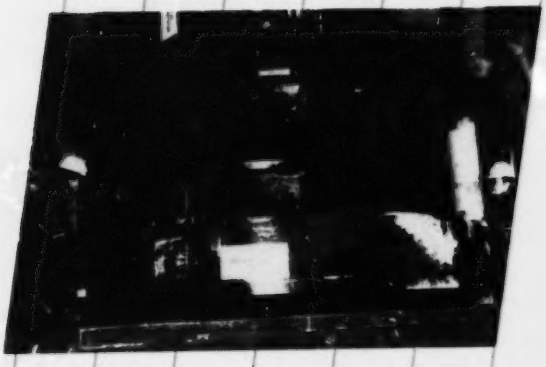
In addition to opportunities for experienced applicants, NRR has positions available for recent college graduates. In April 1988, the Office of Nuclear Reactor Regulation (NRR) initiated its Technical Intern Program. Recent college graduates and others with limited experience are hired at a grade commensurate with their education al level and work experience. The program provides a mix of training and work experiences for entry-level employees who have limited nuclear-related, industrial, and regulatory experience. The 24-month program consists of rotational assignments in NRR, regional offices, and other NRC offices. Participants are given an opportunity to work in the projects and technical review divisions of NRR and to gain on-site regional and plant experience. The assignments provide exposure to project management and engineering review and inspection functions.

Upon entering on duty, each intern is given a list of specialized reading, orientation, and training assignments, and the intern is required to maintain a record showing when each assignment is completed. Training courses are added as necessary during rotational assignments. In addition, interns participate in technical training courses at the Technical Training Center in Chattanooga, Tennessee, as well as in other courses taught at NRC for technical professionals. When an intern completes the program, he or she will be permanently assigned to a position in NRR or elsewhere within NRC. The NRR Technical Intern Program provides NRR with a cadre of entry-level engineers who, through training and selected work assignments, will help the office meet its regulatory mission in the future. Each intern is assigned a senior manager as a mentor.

Career Enhancement and Training Opportunities

NRR is committed to providing career opportunities and job enrichment for its employees. One mechanism for doing this—rotational assignments—allows employees to broaden their knowledge and experience by moving to other offices or working in different disciplines for a period of time.

With the wide range of job functions throughout the agency, many employees must acquire specialized knowledge and skills beyond those gained in college courses or previous employment. To meet these requirements, NRC has established various training programs:



- Classroom and simulator courses to teach engineers the design and operation of the various types of nuclear power facilities.
- Briefings to assimilate new personnel into the regulatory process.
- Seminars to teach technical and projects personnel the methods for conducting engineering reviews.

Special individual licensing and development needs are usually satisfied by individuals attending courses at government and non-government facilities. Career counseling is available to all employees to assist them in achieving their goals.

General Information

HOUSING

The Washington Metropolitan area (which includes the suburbs of Maryland, Virginia and the District of Columbia) provides a wide variety of housing opportunities ranging from apartments, condominiums, townhouses, and single family homes. Prices are comparable to those in most other major U.S. cities. Whether for purchase or for rent, housing is available for all income brackets. Rooms in private homes are advertised in the local newspapers and are available for rent at reasonable fees. Homes located in close proximity to the area's mass transit system (Metro rail), Montgomery County, and the District of Columbia (Washington, D.C.) are generally more costly than in some other outlying areas.

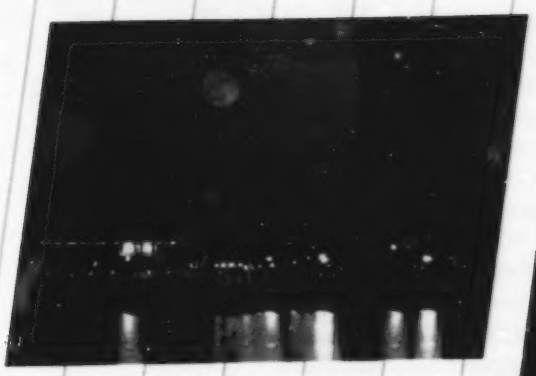
TRANSPORTATION/PARKING

The following types of public transportation are available to the White Flint Building.

- The Metrorail (Red Line) subway station is on Marinelli Drive across from the building.
- Metrobuses and Ride-On buses stop nearby.
- Discount fares up to 25 percent are available for most forms of public transportation.

Parking in the White Flint Headquarters building garage is $60 per month by permit only (or $6 per day). Several outdoor paid lots are nearby and range from $38 to $50 per month by permit only. Early arrivals may avail themselves of various free spaces nearby.

Application Information



Inquiries regarding employment with the Nuclear Regulatory Commission should be directed to:

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